


Section 1: Product & Company Information

Product Name: Citric Acid
Chemical Family: Organic Acid
Product Use: Drilling Mud Additive

Workplace Hazardous Materials Information Systems Data (WHMIS):

	Class ID	Class	Workplace Hazard
	D-2-B	Materials Causing Other Toxic Effects - Toxic	Skin and eye irritant

Manufacturer Name: HiTech Fluid Systems
Address: #1800, 505 3rd Street SW, Calgary, AB T2P 3E6 Canada
General Phone Number: (403)547-2906
General Fax Number: (403)547-3129
MSDS Revision Date: June 1, 2008
Supercedes: June 23, 2005
Prepared By: HiTech Fluid Systems
Preparer's Phone: (403)547-2906

Section 2: Composition/Information on Ingredients

Chemical Name	Concentration	CAS#
Citric Acid	100%	77-92-9

Section 3: Hazards Identification

Emergency Overview: Not Available

Routes of Entry:

Skin Contact: Yes
Skin Absorption: No
Eye Contact: No
Inhalation: No
Ingestion: Yes

Potential Health Effects:

Skin:	May cause irritation.
Eye:	May cause irritation.
Inhalation:	Nuisance dust
Ingestion:	May cause irritation of mucous membranes and gastrointestinal tract.

Section 4: First Aid Measures

Eye Contact:	Flush eyes with water for at least 15 minutes. If adverse symptoms develop, seek medical attention.
Skin Contact:	Wash with soap and water. If adverse symptoms develop, seek medical attention.
Inhalation:	Remove patient to fresh air. If breathing has stopped, administer artificial respiration, and seek medical attention.
Ingestion:	Give patient large quantities of water or milk to drink, then induce vomiting. Contact a physician.
Other First Aid:	Not Available

Section 5: Fire Fighting Measures

Conditions Of Flammability:	Non-flammable
Extinguishing Media:	Dry chemical, CO ₂ , foam, water
Flashpoint:	Not Available
Upper Flammable Limit:	2294g/m ³
Lower Flammable Limit:	282.4g/m ³
Autoignition Temperature:	1000-1020°C
Protective Equipment:	Firefighters must wear appropriate breathing apparatus and clothing.
Sensitivity To Impact or Static Discharge:	Not available
Hazardous Combustion Products:	Not available
Fire Comment:	

Section 6: Accidental Release Measures

Personnel Precautions:	Use proper personal protective equipment as listed in section 8.
Spill Cleanup Measures:	Contain spill. Pick up solids and place in tightly sealed container.

Section 7: Handling & Storage

Handling: Avoid ingestion. Practice reasonable caution and personal cleanliness. Avoid skin and eye contact.

Storage: Store in a cool, dry, well ventilated place. Keep container tightly closed and away from incompatible materials.

Section 8: Exposure Controls, Personal Protection, Exposure Guidelines

Engineering Controls: Provide mechanical ventilation to prevent dust concentrations, and to reduce potential exposure.

Personal Protective Equipment: Chemical-resistant clothing is recommended, including gloves, apron, and goggles.

Respiratory Protection: In absence of proper ventilation, it is recommended to wear an approved dust mask.

Exposure Limits: LD₅₀(oral mouse)=5040 mg/kg LD₅₀(oral rat)= 6730-11700 mg/kg Dermal, acute: 500mg/24 hr-moderate Eye: 750 mg/24 hr severe

Chemical Name	ACGIH TLV-TWA	OSHA PEL-TWA
Citric Acid	Not Available	Not Available

Section 9: Physical & Chemical Properties

Physical State:	Solid
Odour And Appearance:	White powder or granules; odourless
Odour Threshold:	N/A
Boiling Point:	N/A
Evaporation Rate:	< 1
Melting Point:	153°C
Freezing Point:	N/A
Specific Gravity:	1.665
Solubility in Water:	60% @ 20C
Vapour Density:	N/A
Vapour Pressure:	N/A
pH:	2.2
Flash Point:	Not Available
Volatility (% by volume):	Not available
Coefficient of Water to Oil distribution:	N/A

Section 10: Stability & Reactivity

Chemical Stability:	Yes
Hazardous Polymerization:	Will not occur.
Conditions Of Chemical Instability:	
Incompatible Substances:	Incompatible with copper, zinc, aluminum, and their alloys, due to corrosion. Avoid contact with metal nitrates and strong oxidizers.
Special Decomposition Products:	CO, CO ₂

Section 11: Toxicological Information

Chemical Name	LD ₅₀ (Oral Rat)	LD ₅₀ (Dermal Rabbit)	LC ₅₀ (Inhalation Rat)
Citric Acid	6730 mg/kg	Not Available	Not Available

Effects Of Acute Exposure:	N/A
Effects Of Chronic Exposure:	Irritation
General Irritancy Of Product:	Slight
Sensitization:	N/A
Carcinogenicity:	N/A
Reproductive Toxicity:	N/A
Teratogenicity:	N/A
Embryotoxicity:	Not Available
Mutagenicity:	N/A
Synergistic Products:	N/A

Section 12: Ecological Information

Ecotoxicity:	Not Available
Environmental Fate:	Not Available

Section 13: Disposal Considerations


Waste Disposal:	All waste should be disposed of according to federal, provincial and local regulations. Containers should NOT be re-used. Containers should be disposed of in accordance with government regulations.
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Section 14: Transport Information

TDG Classification: Not regulated
DOT UN Number: N/A
Shipping Notes: Not available

Section 15: Regulatory Information

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	D-2-B	Materials Causing Other Toxic Effects - Toxic	Skin and eye irritant

This product has been classified according to the hazard criteria of the CPR and the MSDS contains all the information required by the CPR.

Section 16: Additional Information

MSDS Revision Date: June 1, 2008
MSDS Revision Notes:
MSDS Author: HiTech Fluid Systems

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